

# IOWA DEPARTMENT OF NATURAL RESOURCES

## ADMINISTRATIVE ORDER

<b>IN THE MATTER OF:</b>	
<b>CITY OF DIXON</b>	<b>ADMINISTRATIVE ORDER</b>
<b>Public Water Supply Facility No. 8225043</b>	<b>NO. 2013-WS-01</b>

**TO: Mayor and Council Members**  
**City of Dixon**  
**P.O. Box 116**  
**Dixon, Iowa 52745**

### I. SUMMARY

This administrative order (order) is issued to the City of Dixon (City) for violations of the Department's water supply rule requirements. This order requires the City to:

- Submit a complete construction permit application to the Department's Water Supply Engineering Section (WSES) within 30 days of receipt of this order;
- Complete construction of a new well within 30 days of issuance of a construction permit by the WSES;
- In the alternative, submit a revised preliminary engineering report (PER) and a construction permit application for provision of water from another drinking water source that complies with Department rules within 30 days of receipt of this order and complete construction of the selected alternative within 30 days of issuance of a WSES construction permit for the selected alternative;
- Sample this facility as required by Department rules and the water supply operation permit (permit) issued for this facility; and
- Pay an administrative penalty of \$9,500.00 as set forth in this order.

Any questions regarding this order should be directed to:

**Relating to technical requirements:**

Cecilia Naughton  
Environmental Specialist  
Iowa Department of Natural Resources  
401 SW 7<sup>th</sup>, Suite M  
Des Moines, Iowa 50309-4611  
Ph: 515/725-0289

**Relating to legal requirements:**

Diana Hansen, Attorney at Law  
Iowa Department of Natural Resources  
502 East 9<sup>th</sup> Street  
Des Moines, Iowa 50319-0034  
Ph: 515/281-6267

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**Direct payment of penalty to:**

Iowa Department of Natural Resources  
502 East 9<sup>th</sup> Street  
Des Moines, Iowa 50319-0034

**II. JURISDICTION**

This order is issued pursuant to Iowa Code section 455B.175(1), which authorizes the Director to issue any order necessary to secure compliance with or prevent a violation of Iowa Code chapter 455B, Division III, Part 1, and the rules promulgated or permits issued pursuant thereto; and Iowa Code section 455B.109 and 567 Iowa Administrative Code (IAC) chapter 10 (455B), which authorize the Director to assess penalties.

**III. STATEMENT OF FACTS**

1. The City's public water supply (PWS) system derives its water from one well, Well No. 1, constructed in 1916. The well is 108 feet deep and produces 17,000 gallons per day. Treatment for disinfection consists of the addition of sodium hypochlorite. Distribution pressure and storage are provided by one elevated storage tank with a capacity of 30,000 gallons. This PWS serves 247 residents.
2. On September 8, 2008, the City's permit was renewed with the addition of a requirement for quarterly nitrate sampling. On November 9, 2009, the permit was revised further and the requirement for gross alpha monitoring every three years was added to the permit.
3. This PWS exceeded the nitrate maximum contaminant level (MCL) level of 10 mg/L with a sample taken on January 11, 2010. A confirmation sample tested at below the detection limit, making the average of the two samples 5.5 mg/L. The system was placed on monthly nitrate monitoring by a permit issued on January 28, 2010.
4. On September 10, 2010, the Department's Water Supply Operation Section (WSOS) issued a notice of violation (NOV) letter to the City for a nitrate MCL violation. The nitrate result for the September 7, 2010 sample was 13 mg/L. The City provided public notice to the community and submitted the required public notice certification to the WSOS for the violation.
5. On September 15, 2010, the Department's Field Office No. 6 (FO 6) conducted an onsite visit with Dixon to try to determine the cause of the nitrate levels. Five nearby water supply wells were tested for nitrate, with none showing an elevated level of nitrate. Based on this information, FO 6 recommended that the City conduct a well source water evaluation, including televising the well to verify the grouting, and consider connection to an alternative water source.

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6. On December 2, 2010, an NOV for a nitrate MCL exceedance was issued to the City. The NOV for the MCL violation was based on the nitrate result for the December 1, 2010 sample of 11 mg/L. The City provided public notice to the community. The Department received the required public notice certification for this violation.

7. On December 13, 2010, the Department decided to revise the permit to include an appendix for correction of the nitrate MCLs. This decision was reached since there had been three test results that exceeded the nitrate MCL for this acute contaminant, including two MCL violations based on the test results. On December 15, 2010, the revised permit was issued. The permit contained a compliance schedule requiring the City to submit a Preliminary Engineering Report (PER) and a Viability Assessment by June 30, 2011 to the WSES. The City failed to submit the PER and the Viability Assessment by the due date.

8. On August 23, 2011, the permit was renewed. The cover letter for the renewal permit stated that the submittal of the PER was still required. In addition, an NOV was issued to the City for failure to meet the compliance schedule in the prior revised permit. The City was informed the PER must be submitted no later than September 30, 2011 and no further extensions would be granted.

9. On January 26, 2012, an NOV for a nitrate MCL exceedance was issued to the City. The NOV for the nitrate MCL violation was based on the nitrate result for the January 23, 2012 sample of 13 mg/L. The City provided the required public notice to the community. The Department received the required public notice certification for the MCL violation.

10. On February 6, 2012, an environmental specialist senior from FO 6 attended the Dixon City Council meeting to discuss the process of constructing a new well, construction applications, funding possibilities, hiring a consultant, and timing. He also worked to establish emergency contacts, as the City Council members and the City Clerk were not available during the day.

11. On March 11, 2012, the City Clerk indicated to FO 6 that the City had hired Verbeke-Meyer as its consulting engineer. The City Clerk also informed FO 6 at this time that the City would submit the required PER by April 15, 2012.

12. On April 26, 2012, the PER was received by the WSES. The PER discussed three alternatives and recommended the second alternative. This alternative recommended the drilling of a new well into the Silurian aquifer at a cost of approximately \$220,000. The City would keep the existing well for redundancy.

13. On June 12, 2012, the WSES approved the PER. The approval letter included recommendations regarding pressure and peak day demand.

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14. On June 14, 2012, an NOV for a nitrate MCL exceedance was issued to the City. The MCL violation was based on the nitrate test result for the June 11, 2012 sample of 12 mg/L. The City provided the required public notice to the community. The Department received the required public notice certification for this violation.

15. On August 15, 2012, FO 6 performed a Sanitary Survey. The survey noted the system pressure gauge indicated the water pressure was 30 psi, where it should be at least 35 psi.

16. On September 5, 2012, the permit was revised. The revised permit included a compliance schedule that required the City to apply for a construction permit by October 5, 2012. The compliance schedule required the City to begin construction within 30 days of issuance of the construction permit by WSES.

17. On October 3, 2012, a WSES engineer was contacted by the City's consulting engineer and was asked for an extension concerning the compliance schedule. The WSES engineer indicated that the City needed to submit a letter that listed the reasons for the delays in complying with the schedule. The City was also required to submit a new schedule that was reasonable.

18. On October 12, 2012, the City's consulting engineer responded by email to the WSES engineer with a brief overview of the progress of the project.

"The City understood that after the completion of the PER, the next step in the process was to submit a Viability Assessment Manual and IUP application to go the route for funding. An incomplete VAM was submitted and the IUP was considered unnecessary because they choose to apply for CDBG funding, then an SRF loan if needed as a backup.

Currently, the City will be completing the VAM with assistance from our firm if needed. They will file an application for the CDBG and perhaps as well for an SRF loan.

As for a delay from the compliance schedule, the City was on schedule to complete the next step, which was to submit funding documents due in September. A minor setback due to incomplete data has pushed that back to this coming December. The City was not aware of a compliance schedule other than to continue to complete what all is necessary toward drilling a new well as soon as possible."

19. On December 18, 2012, the City's well was televised. No holes or indications of potential casing failure were observed from the well televising.

20. On February 5, 2013, the City was contacted by the WSOS by email concerning the status of the required construction permit application. On February 10, 2013, the City

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Clerk responded to the WSOS February 5, 2013 inquiry. The City Clerk's response stated that the City was not aware of the requirement of the September 5, 2012 compliance schedule to construct a new well within 30 days of issuance of the construction permit. She indicated that the City thought it would have one year to construct the new well. No information was provided regarding the submittal of the construction permit application.

21. On February 11, 2013, FO6 contacted the City to determine the status of the City's efforts to address the well's elevated nitrate water source, in view of the fact that the City's sole water source was the one well that was drilled in 1916. The information gathered from the City indicated that although sampling was being done as required, no other compliance schedule requirements had been met. No funding had been applied for, no viability assessment had been completed, and no construction permit application had been submitted to the WSES for approval and issuance of a construction permit for a new well.

22. On February 14, 2013, an NOV for an acute nitrate MCL exceedance was issued to the City. The MCL violation was based on a nitrate test result for the February 11, 2013 sample of 14 mg/L. The City provided public notice to the community and provided the certification for giving public notice to the WSOS.

23. There have been six test results for nitrate that have exceeded 10 mg/L since September, 2010 and five nitrate MCL violations since September 2010. As a community PWS serving the residents and general public in Dixon, Iowa, it is assumed that the drinking water at residences and businesses in the City will be available for consumption to men, women and children, which could include infants under the age of 6 months, residing in or visiting the City. Infants can develop methemoglobinemia due to high levels of nitrate in drinking water. The infant's skin takes on a bluish or brown cast, breathing becomes difficult, and even death can result from drinking such water. Due to this immediate effect on infants, a nitrate MCL violation for exceeding 10 mg/L nitrogen as N, is considered an acute risk to human health (especially the health of infants) and requires public notice be given within 24 hours.

An excerpt from the standard public notice form provides as follows:

***"DO NOT GIVE THE WATER TO INFANTS. Infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome. Blue baby syndrome is indicated by blueness of the skin. Symptoms in infants can develop rapidly, with health deteriorating over a period of days. If symptoms occur, seek medical attention immediately."***

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**IV. CONCLUSIONS OF LAW**

1. Iowa Code section 455B.172 makes this Department the agency of the state to conduct the PWS program. Iowa Code section 455B.171 defines a PWS system as a system for the provision of piped water for human consumption, if the system has at least fifteen service connections or regularly serves at least twenty-five individuals. Iowa Code sections 455B.173(3), (5), and (6) authorize the Environmental Protection Commission (Commission) to promulgate rules relating to the operation of PWS systems and to adopt drinking water standards to assure compliance with federal standards adopted pursuant to the federal Safe Drinking Water Act. The Commission has the authority to adopt rules relating to monitoring, record keeping, and reporting requirements for any PWS. The Commission has adopted such rules at 567 IAC chapters 40-43.

2. Rule 567 IAC 40.2 (455B) further defines PWS by defining "community water system" as a PWS which has at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents, consistent with federal regulations. A "noncommunity water system" is any other PWS. This facility is a community water system.

3. Subrule 41.3(1)"b" provides that the MCL for nitrate is 10 mg/L (as nitrogen), subparagraph "c"(5), requires a water system to be sampled at least once every year, and have the samples analyzed for nitrate, in accordance with prescribed analytical procedures. Repeat monitoring is required to be quarterly for at least one year following any one sample in which the concentration is greater than or equal to 5.0 mg/L as N. The Department may allow a ground water system to reduce the sampling frequency to one sample per year after four consecutive quarterly samples are reliably and consistently less than 5.0 mg/L as N. The repeat monitoring frequency is required to be monthly for at least one year following any one sample in which the concentration is greater than or equal to 10.0 mg/L as N.

4. Subrule 41.3(1)"c"(5) provides as follows:

(5) Routine and repeat monitoring frequency for nitrates. All public water supply systems (community; nontransient noncommunity; and transient noncommunity systems) shall monitor to determine compliance with the maximum contaminant level for nitrate in 41.3(1)"b."

1. Initial nitrate sampling. Community and nontransient noncommunity water systems served by groundwater systems shall monitor annually beginning January 1, 1993; systems served by surface water shall monitor quarterly beginning January 1, 1993. Transient noncommunity water systems shall monitor annually beginning January 1, 1993.

2. Groundwater repeat nitrate sampling frequency. For community and noncommunity water systems, the repeat monitoring frequency for groundwater systems shall be:

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- Quarterly for at least one year following any one sample in which the concentration is greater than or equal to 5.0 mg/L as N. The department may allow a groundwater system to reduce the sampling frequency to annually after four consecutive quarterly samples are reliably and consistently less than 5.0 mg/L as N.

- Monthly for at least one year following any one sample in which the concentration is greater than or equal to 10.0 mg/L as N.

3. Surface water repeat nitrate sampling frequency. For community and noncommunity water systems, the department may allow a surface water system to reduce the sampling frequency to:

- Annually if all analytical results from four consecutive quarters are less than 5.0 mg/L as N.

- Quarterly for at least one year following any one sample in which the concentration is greater than or equal to 5.0 mg/L as N. The department may allow a surface water system to reduce the sampling frequency to annually after four consecutive quarterly samples are reliably and consistently less than 5.0 mg/L as N.

- Monthly for at least one year following any nitrate MCL exceedance.

4. Scheduling annual nitrate repeat samples. After the initial round of quarterly sampling is completed, each community and nontransient noncommunity system which is monitoring annually shall take subsequent samples during the quarter(s) which previously resulted in the highest analytical

5. Subrule 41.3(1)"c"(7)2 provides as follows:

2. Deadline for nitrate and nitrite confirmation samples. Where nitrate or nitrite sampling results indicate an exceedance of the maximum contaminant level and the sampling frequency is quarterly or annual, the system shall take a confirmation sample within 24 hours of the system's receipt of notification of the analytical results of the first sample. Public water supply systems unable to comply with the 24-hour sampling requirement must immediately notify the consumers served by the area served by the public water system in accordance with 567—42.1(455B) Tier 1 public notice and complete an analysis of a confirmation sample within two weeks of notification of the analytical results of the first sample. Where the sampling frequency is monthly, a confirmation sample will not be used to determine compliance with the MCL.

6. Subrule 83.1(3) requires the samples to be analyzed at a certified laboratory. Subrule 42.4(1) requires that the analytical results be reported to the Department within ten days after the test. Subrule 42.5(1) requires a PWS system to retain records of chemical analysis of its water supply for a period of ten years.

7. Subrule 567 IAC 43.2(2) requires that no person shall operate any PWS system or part thereof without, or contrary to any condition of, an operation permit issued by the Director. Subrule 43.2(5) "a" provides that operation permits may contain such conditions as are deemed necessary by the director to ensure compliance with all

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applicable rules of the Department, to ensure that the PWS system is properly maintained, to ensure that potential hazards to the water consumer are eliminated promptly, and to ensure that the requirements of the Safe Drinking Water Act are met. Subrule 43.2(5) "b" provides that where one or more MCLs, treatment techniques, designated health advisories, or action levels cannot be met immediately, a compliance schedule for achieving compliance with standards may be made a condition of the permit. This facility owner did not comply with the appendices included in two permits for this facility that required installation of chlorination equipment for the well.

8. Subrule 567 IAC 42.1(4) requires the owner or operator of a PWS system which fails to perform monitoring required by rule to notify persons served by the system within three months. Public notice is also required for acute and non-acute total coliform bacteria MCL violations under 567 IAC 42.1(2) and (3). The notice is required to provide a clear and readily understandable explanation of the violation, the steps the system is taking to correct the violation, and include the telephone number of the owner, operator, or designee of the system as a source of additional information. Subrule 567 IAC 42.4(1), paragraph "c", provides that the PWS shall submit a representative copy of the public notice to the Department within ten days of completion of the notice.

**V. ORDER**

THEREFORE, the Department orders the City to comply with the following provisions in order to abate and redress violations of Department rules and the facility's PWS permit:

1. You are required to submit an application for a construction permit for a new well to WSES within 30 days of receipt of this order. You are required to complete construction of the new well within 30 days of issuance of the construction permit by WSES.
2. In the alternative, you are required to submit a revised PER and a construction permit application for connection to an alternate water source meeting all Department PWS drinking water standards within 30 days of receipt of this order. You are required to complete connection to the alternate source of water meeting all Department PWS drinking water standards within 30 days of issuance of the construction permit by WSES.
3. You are required to sample the drinking water at this facility in full compliance with the requirements of the Department rules for PWS systems and the permit issued for this facility.
4. You are required to pay an administrative penalty of \$9,500.00. The administrative penalty is due within 60 days of receipt of this order.



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**VI. PENALTY**

1. Iowa Code section 455B.191 authorizes the assessment of civil penalties of up to \$5,000.00 per day of violation for the violations involved in this matter.

2. Iowa Code section 455B.109 authorizes the Commission to establish by rule a schedule of civil penalties up to \$10,000.00 that may be assessed administratively. The Commission has adopted this schedule with procedures and criteria for assessment of penalties in 567 IAC chapter 10. Pursuant to this chapter, the Department has determined that the most effective and efficient means of addressing the above-cited violations is the issuance of an order with an administrative penalty. The administrative penalty assessed by this order is determined as follows:

a. Economic Benefit. There have been cost savings to the City by delaying appropriate action to correct its nitrate MCL violations to ensure safe drinking water. The PER indicated that a new well would cost the City an estimated \$267,100.00. The City has benefited by not obtaining the final engineering plans and specifications, not applying for the construction permit and drilling the new well, and not paying on the interest and principal of a construction loan. The amount of \$4,000.00 is assessed for this factor based on estimated cost savings for loan interest, the cost of a construction permit and the cost of final engineering plans and specifications.

b. Gravity of the Violation. One of the factors to be considered in determining the gravity of a violation is the amount of penalty authorized by the Iowa Code for the type of violation. As indicated above, substantial civil penalties are authorized by statute. Despite the high penalties authorized, the Department has decided to handle the violations administratively at this time, as the most equitable and efficient means of resolving the matter. Failure to correct nitrate MCL violations at this facility is a threat to public health and safety. Having adequate water quality that does not exceed the mandated nitrate MCL is central to the administration of the State's safe drinking water program. The continued MCL violations threaten the integrity of this program. Because of the importance of the drinking water program, \$3,000.00 is assessed for this factor in view of multiple nitrate MCL violations.

c. Culpability. There has been adequate time to comply with nitrate MCL and permit requirements. The City has known for three years that the well's source water did not meet the Safe Drinking Water Act requirements found in Department rules for nitrates. The City has not applied for any construction loans or for any construction permits. It failed to submit an adequate Viability Assessment. Onsite visits by FO 6 on September 15, 2010 and August 15, 2012 provided extensive technical assistance regarding permit requirements, sampling and reporting. Written communications by the WSOS and WSES have failed to result in compliance. The City has been made aware of its responsibilities as a PWS by Department staff. To date, the City has not taken adequate action to come into compliance with nitrate MCL requirements. The permits and Department letters

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contained schedules for returning this facility to compliance with nitrate MCL requirements. There has been adequate time to comply with the permit, sanitary survey requirements, and Department letters. Therefore, the amount of \$3,000.00 is assessed for this factor, in view of multiple violations.

d. Mitigating Factor. Public notice was given for all nitrate MCL violations. There have been no monitoring violations. The amount of \$500.00 is deducted from the total penalty for this factor.

**VII. APPEAL RIGHTS**

Pursuant to Iowa Code section 455B.175, and subrule 561 IAC 7.4(1), as adopted by reference by 567 IAC chapter 7, a written notice of appeal to the Commission may be filed within 30 days of receipt of this order. The notice of appeal should be filed with the Director of the Department, and must identify the specific portion or portions of this order being appealed and include a short and plain statement of the reasons for appeal. A contested case hearing will then be commenced pursuant to Iowa Code chapter 17A and 561 IAC chapter 7.

**VIII. NONCOMPLIANCE**

Compliance with Section V. of this order constitutes full satisfaction of all requirements pertaining to the violations described in this order. Failure to comply with this order may result in the imposition of further administrative penalties pursuant to an administrative order or referral to the Attorney General to obtain injunctive relief and civil penalties pursuant to Iowa Code section 455B.191.

Chuck Gipp  
CHUCK GIPP, DIRECTOR  
IOWA DEPARTMENT OF NATURAL RESOURCES

Dated this 13<sup>th</sup> day of  
March, 2013

City of Dixon– Public Water Supply Facility No. 8225043, Cecilia Naughton– Water Supply Operations Section, Paul Brandt– Field Office No. 6, Diana Hansen – Legal Services Bureau, II.B.2.b., II.B.2.c.(2), and II.B.2.g.